

CLAIMS

1-17. (canceled)

18. (new) Apparatus for generating a transmission signal in a frequency band, the apparatus comprising:

a compensating filter;
an amplifier connected downstream of the compensating filter; and
a transmit filter connected downstream of the amplifier, wherein:
the amplifier is adapted to amplify an outgoing signal;
the transmit filter is adapted to filter the amplified outgoing signal to suppress parts of the amplified outgoing signal outside of the band for the transmission signal; and
the compensating filter is adapted to alter the outgoing signal to reduce one or more features generated by the transmit filter within the band in the transmission signal.

19. (new) The invention of claim 18, further comprising:
a first sampler connected downstream of the transmit filter and adapted to sample the transmission signal generated by the transmit filter to generate a first feedback signal prior to transmission of the transmission signal; and
a feedback path connected between the first sampler and the compensating filter and adapted to provide the first feedback signal to the compensating filter; wherein:
the compensating filter is adapted to alter the outgoing signal to reduce the one or more features based on the first feedback signal.

20. (new) The invention of claim 19, wherein:
the compensating filter is adapted to operate at baseband;
the amplifier and the transmit filter are adapted to operate at a non-baseband transmission frequency;
the apparatus further comprises:
an upconverter connected between the compensating filter and the amplifier and adapted to convert the outgoing signal from baseband to the transmission frequency; and
a downconverter connected between the first sampler and the compensating filter in the feedback path and adapted to convert the first feedback signal from the transmission frequency to baseband.

1 21. (new) The invention of claim 19, further comprising a linearizer connected upstream of
2 the amplifier and adapted to predistort the outgoing signal to reduce distortion introduced into the
3 transmission signal by the amplifier.

1 22. (new) The invention of claim 21, wherein the linearizer is connected to receive the first
2 feedback signal and adapted to predistort the outgoing signal to reduce distortion introduced into the
3 transmission signal by the amplifier and by the transmit filter.

1 23. (new) The invention of claim 21, further comprising:
2 a second sampler connected between the amplifier and the transmit filter and adapted to sample
3 the amplified outgoing signal to generate a second feedback signal;
4 a switch connected to receive the first and second feedback signals and adapted to provide a
5 selected one of the first and second feedback signals to the linearizer and to the compensating filter.

1 24. (new) The invention of claim 21, further comprising a correcting filter connected to
2 receive the first feedback signal and adapted to correct the first feedback signal as used by the linearizer
3 for a roll-off effect in the characteristic of the transmit filter.

1 25. (new) The invention of claim 19, further comprising a transmit band cover filter
2 connected in the feedback path between the first sampler and the compensating filter.

1 26. (new) The invention of claim 18, wherein the one or more features comprise at least one
2 of a phase ripple, an amplitude ripple, and a group delay variation of the transmit filter within the band.

1 27. (new) The invention of claim 26, wherein the one or more features comprise the phase
2 ripple of the transmit filter within the band.

1 28. (new) The invention of claim 26, wherein the one or more features comprise the
2 amplitude ripple of the transmit filter within the band.

1 29. (new) The invention of claim 26, wherein the one or more features comprise the group
2 delay variation of the transmit filter within the band.

1 30. (new) The invention of claim 26, wherein the one or more features comprise at least two
2 of the phase ripple, the amplitude ripple, and the group delay variation of the transmit filter within the
3 band.

1 31. (new) The invention of claim 30, wherein the one or more features comprise the phase
2 ripple, the amplitude ripple, and the group delay variation of the transmit filter within the band.

1 32. (new) The invention of claim 18, further comprising:
2 an antenna connected downstream of the transmit filter and adapted to transmit the transmission
3 signal from the apparatus and receive a received signal transmitted to the apparatus;
4 receiver circuitry adapted to process the received signal; and
5 a diplexer connected to allow the transmission signal to pass from the transmit filter to the
6 antenna and the received signal to pass from the antenna to the receiver circuitry.

1 33. (new) The invention of claim 18, further comprising a linearizer connected upstream of
2 the amplifier and adapted to predistort the outgoing signal to reduce distortion introduced into the
3 transmission signal by the amplifier.

1 34. (new) A method for generating a transmission signal in a frequency band, the method
2 comprising:
3 amplifying an outgoing signal;
4 transmit filtering the amplified outgoing signal to suppress parts of the amplified outgoing signal
5 outside of the band for the transmission signal; and
6 altering the outgoing signal, prior to amplifying the outgoing signal, to reduce one or more
7 features generated by the transmit filtering within the band in the transmission signal.

1 35. (new) The invention of claim 34, wherein the one or more features comprise at least one
2 of a phase ripple, an amplitude ripple, and a group delay variation of the transmit filter within the band.

1 36. (new) Apparatus for generating a transmission signal in a frequency band, the apparatus
2 comprising:
3 means for amplifying an outgoing signal;
4 means for transmit filtering the amplified outgoing signal to suppress parts of the amplified
5 outgoing signal outside of the band for the transmission signal; and

6 means for altering the outgoing signal, prior to amplifying the outgoing signal, to reduce one or
7 more features generated by the transmit filtering within the band in the transmission signal.

1 37. (new) The invention of claim 36, wherein the one or more features comprise at least one
2 of a phase ripple, an amplitude ripple, and a group delay variation of the transmit filter within the band.